

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 693 560 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
22.01.1997 Bulletin 1997/04

(51) Int Cl. 6: C12Q 1/68, G01N 35/00,
G01N 21/07

(43) Date of publication A2:
24.01.1996 Bulletin 1996/04

(21) Application number: 95304989.7

(22) Date of filing: 18.07.1995

(84) Designated Contracting States:
BE DE ES FR GB IT NL SE

(72) Inventor: Cottingham, Hugh V.
Caldwell, New Jersey 07006 (US)

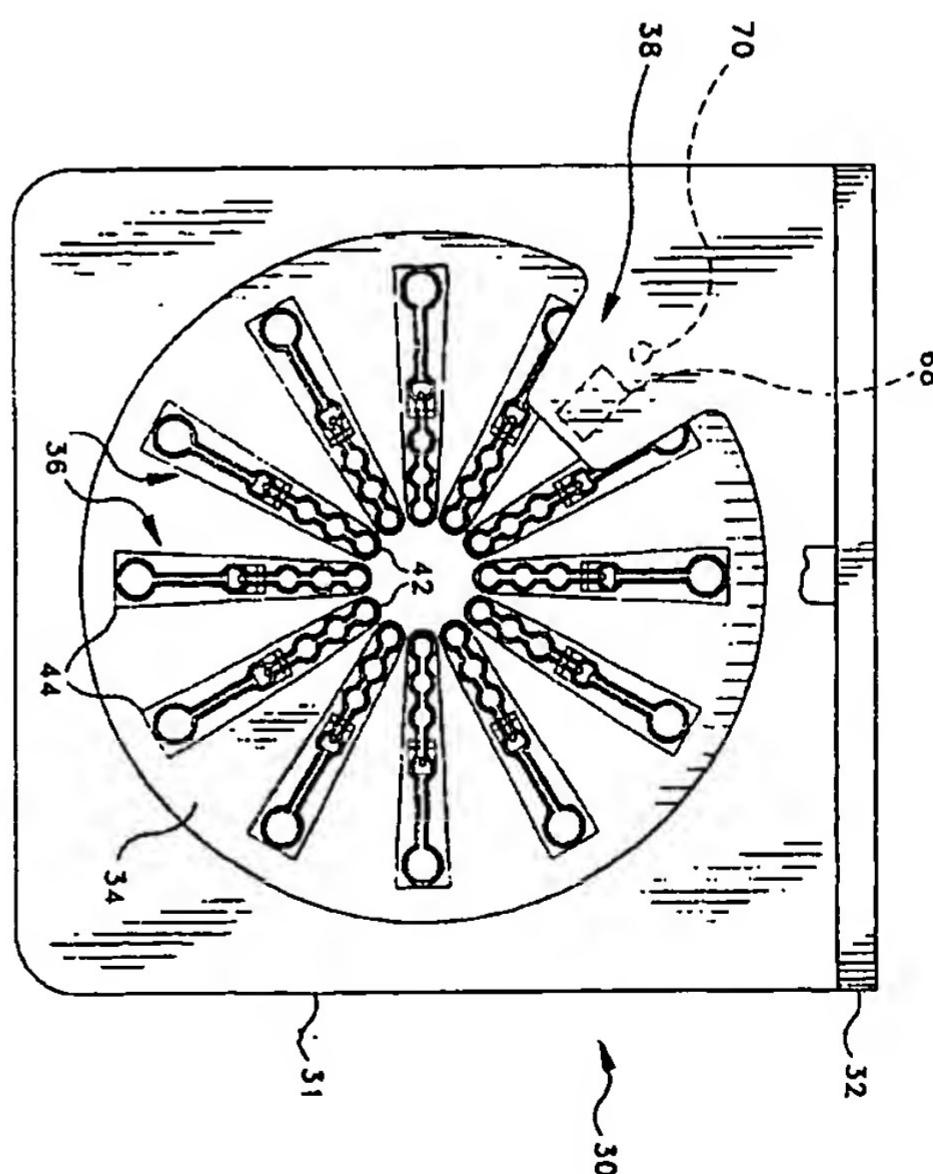
(30) Priority: 19.07.1994 US 277553

(74) Representative: Ruffles, Graham Keith
MARKS & CLERK,
57-60 Lincoln's Inn Fields
London WC2A 3LS (GB)

(54) Method and apparatus for fully automated nucleic acid amplification, nucleic acid assay and immunoassay

(57) A disposable, self-contained test unit (36) is provided for use in carrying out an immunoassay or an integrated nucleic acid amplification and nucleic acid assay. The test unit (36) includes sample, reagent and waste chambers, and the flow of sample and reagent liquids is controlled by centrifugal force. Different liquids may be caused to flow at different times by locating the chambers at different radial distances from the axis of rotation, and progressively increasing the speed of rotation during the assay procedure. An automated test instrument (30) for receiving and rotating a number of such test units is also disclosed.

FIG-2





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 30 4989

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
X	EP-A-0 417 305 (IDEMITSU) * column 1, line 39 - line 53 * * column 4, line 20 - line 25 * * column 11, line 16 - line 42 * * column 15, line 4 - line 13 * ---	8,9	C12Q1/68 G01N35/00 G01N21/07
A	EP-A-0 352 689 (GUIGAN) * column 4, line 28 - column 6, line 8; figures * * column 8, line 21 - column 10, line 16; figures *	8,9	
A	---	6,7	
A	EP-A-0 594 259 (EASTMAN KODAK) * column 1, line 1 - line 30; figures * * column 4, line 23 - column 5, line 20 * ---	1	
A	FR-A-2 549 961 (ELF) * page 1, line 18 - page 2, line 24 *	1,8	
X	EP-A-0 318 255 (EASTMAN KODAK) * column 11, line 36 - column 12, line 46; figures 11-15 * * column 14, line 27 - column 16, line 36; figures 20,21 *	1-5,10	TECHNICAL FIELDS SEARCHED (Int.Cl.)
X	WO-A-94 05414 (REGENTS OR THE UNIVERSITY OF CALIFORNIA) * page 14, line 5 - page 15, line 17; figures 1,2 *	1,3,4	G01N B01L
A	US-A-3 999 868 (SANZ) * column 3, line 24 - line 44 * * column 4, line 61 - column 5, line 42 * ---	1,8	
		-/-	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	14 November 1996	Hocquet, A	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 30 4989

DOCUMENTS CONSIDERED TO BE RELEVANT									
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.)						
A	WO-A-92 15597 (MALMQUIST) * page 1, last paragraph; figures * * page 4, last paragraph - page 5, paragraph 2 * ---	1,3,8							
A	EP-A-0 407 827 (MILES) * page 5, line 28 - line 34 * -----	1							
			TECHNICAL FIELDS SEARCHED (Int.Cl.)						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of compilation of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>14 November 1996</td> <td>Hocquet, A</td> </tr> </table> <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>				Place of search	Date of compilation of the search	Examiner	THE HAGUE	14 November 1996	Hocquet, A
Place of search	Date of compilation of the search	Examiner							
THE HAGUE	14 November 1996	Hocquet, A							